

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A method for adjusting data modulation at a subscriber unit, comprising:

receiving data at a physical layer transmitter for transmission, wherein the received data is received in data blocks from a higher layer ARQ mechanism;

formatting the received data into packets for transmission, wherein the packets are smaller in size than the data blocks, and each packet having a forward error correction (FEC) encoding/data modulation, and wherein the packets are transmitted using an orthogonal frequency division multiple access (OFDMA) air interface;

appending an error check sequence for each packet;

transmitting the packets;

storing the packets for retransmission in a buffer memory incorporated into the physical layer transmitter;

monitoring a return channel for receipt of an acknowledgment for each packet that ~~that~~ packet has been received;

limiting the number of retransmissions to an operator-defined integer value;

clearing the buffer memory after the integer value is reached;

retransmitting an original or selectively modified packet at the physical layer transmitter, if an acknowledgment for that packet has not been received within a predetermined period of time; and wherein the physical layer ARQ mechanism and physical layer transmitter operate transparently with respect to the higher layer ARQ mechanism;

receiving and demodulating received packets at a physical layer receiver;

transmitting a corresponding acknowledgment in an acknowledgment generator for a given packet at the physical layer receiver, wherein a mechanism configured to receive the corresponding acknowledgment for the given packet operates transparently with respect to the higher layer ARQ mechanism;

collecting retransmission statistics;

adjusting the particular encoding/data modulation of each packet using the collected retransmission statistics; wherein if the collected retransmission statistics indicate a low number of retransmissions, a higher capacity encoding/data modulation scheme is selected as the particular encoding/data modulation and if the collected retransmission statistics indicate a high number of retransmissions, a lower capacity encoding/data modulation scheme is selected as the particular encoding/data modulation;

combining the retransmitted original or selectively modified packet with the transmitted packets; and

selectively nulling subchannels from an OFDM frequency set wherein the use of a poor quality subchannel is precluded for a predetermined period and adding a previously nulled subchannel back into the OFDM frequency set where a retransmission rate or ~~retransmission rate~~ or link quality indicates a high quality for the previously nulled subchannel.

2-4. (Canceled).

5. (Previously presented) The method of claim 1 wherein the return channel is a fast feedback channel when the packets are transmitted using a code division multiple access (CDMA) air interface.

6. (Original) The method of claim 1 further comprising:  
identifying a packet as having an unacceptable error rate responsive to receipt of a negative acknowledgment.

7-9 (Canceled).

10. (New) A user equipment, comprising:  
a higher layer automatic repeat request (ARQ) mechanism configured to generate data for transmission;

a physical layer transmitter configured to receive the data for transmission from the higher layer ARQ mechanism, and wherein the received data is received in data blocks from the higher layer ARQ mechanism, and to format the received data into packets for transmission, wherein the packets are smaller in size than the data blocks, and each packet has a forward error correction (FEC) encoding/data modulation, and wherein the packets are transmitted using an orthogonal frequency division multiple access (OFDMA) air interface, the physical layer transmitter configured to retransmit an original or selectively modified packet at, if an acknowledgment for that packet has not been received within a predetermined period of time; and wherein the physical layer ARQ mechanism and physical layer transmitter operate transparently with respect to the higher layer ARQ mechanism;

a physical layer receiver configured to receive and demodulate received packets and retransmission statistics;

an ACK transmitter configured to transmit a corresponding acknowledgment for a given packet at the physical layer receiver, wherein a mechanism configured to receive the corresponding acknowledgment for the given packet operates transparently with respect to the higher layer ARQ mechanism; and

an adaptive modulation and control (AMC) unit configured to adjust the particular encoding/data modulation of each packet using collected retransmission statistics; wherein if the collected retransmission statistics indicate a low number of retransmissions, a higher capacity encoding/data modulation scheme is selected as the particular encoding/data modulation and if the collected retransmission

statistics indicate a high number of retransmissions, a lower capacity encoding/data modulation scheme is selected as the particular encoding/data modulation; and

wherein subchannels from an OFDM frequency set are selectively nulled wherein the use of a poor quality subchannel is precluded for a predetermined period and adding a previously nulled subchannel back into the OFDM frequency set where a retransmission rate or link quality indicates a high quality for the previously nulled subchannel.